

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listing, of claims in the above-identified application.

**Listing of Claims:**

1. (currently amended) A microinstruction sequencer, comprising:  
a microinstruction sequencer stack comprising an array of memory cells; and  
microinstruction sequencing logic associated with the microinstruction sequencer stack,  
wherein the microinstruction sequencing logic determines if a microinstruction affects the  
microinstruction sequencer stack by determining if the microinstruction includes an operations  
encoding defined to control the microinstruction sequencer stack to determine if there are any  
microinstructions being issued which affect the microinstruction sequencer stack.

2-3. (cancelled)

4. (original) The microinstruction sequencer of claim 1, wherein the microinstruction sequencing logic includes logic to:

generate a value of a microinstruction address;

add an intermediary value to the value of the microinstruction address to yield an incremented value;

send a control value to the microinstruction sequencer stack, said control value to cause the incremented value to be pushed onto the microinstruction sequencer stack; and

push the incremented value onto the microinstruction sequencer stack.

5. (original) The microinstruction sequencer of claim 1, wherein the microinstruction sequencing logic includes logic to:

send a control value to the microinstruction sequencer stack, said control value to:

cause the microinstruction sequencer stack to pop a value; and

send the popped value to a microinstruction address multiplexer.